

### **DETAILED ACTION**

1. This is in responsive to amendment filed on 19 March 2008.
2. Claims 1, 3-4, 6-7, 11, 13, 15-16, 20, 22-23, 25, and 27-42 are currently pending and requested for reconsideration.
3. Objection to claim 1 is withdrawn in view of amendment to the claim 1.

#### ***Claim Objections***

4. Claims 29, 31, 33, 35, 37, 39, and 42 are objected to because of the following informalities:
5. Claims 29, 31, 33, 35, 37, 39, and 42 are directly or indirectly depending upon the canceled claim 26. Appropriate correction is required.

#### ***Response to Arguments***

6. In response to applicant's arguments regarding, "current action is incomplete", the examiner disagrees as the examiner has addressed rejection of all of the claims. Applicant further argues in part that "teaching by Takizawa of a switch for merely detecting a movement of a cover does not teach a switch for detecting the removal of a battery. Rather, as understood by one of ordinary skill in the art, for example, a cover can be opened or closes without removing a battery. Further, a device can have uncovered batteries that can be removed". The examiner understands the reference very well and reads on the claimed invention as described in the claims. The examiner is request fully pointing out that no where in the claims describes, "**the switch for detecting the removal of a battery**", based on which, the applicant argues throughout the arguments.

The applicant further argues, "the Examiner does not address this argument, but merely cites sections of Takizawa that disclose detecting movement of the cover". The examiner disagrees as the examiner has addressed and cited paragraphs related to claimed element in view of the broadest possible way, "a processing ability determination section responsive to **the removal requirement for the part of the mounted batteries---**." The examiner disagrees as,Takizawa teaches an electronic apparatus [handheld or laptop fig. 1] to which pluralities of batteries detachably mounted [101 102, main batteries are inserted and removed] comprising: a removal requirement receipt section [14, and 15 detector switch operates and generates an interrupt signal within battery controller when one of battery cover (45, 46) is opened] for receiving a removal requirement for a part of [101,102 main battery packs] the mounted batteries [101,102 main battery packs] [col. 5, lines 40 - 59, col. 8, lines 12 - 21, col. 11, lines 17 - 26, fig. 1,3A, 3C]; a processing ability determination section [battery controller] from the remaining batteries is capable [non-selected battery's charge level is determined that is sufficient] of maintaining a processing ability [col. 9, lines 2 - 5, col. 14, lines 45 - 47] or an electric power capable of maintaining a lowered processing ability [col. 9, lines 1 - 5, col. 10, lines 33 - 43]; and a processing ability control section for controlling the operation of an apparatus operative or stop depending upon the charge level is sufficient or not when the part of the mounted batteries is removed [disconnected][col. 2, lines 15 - 22, col. 9, lines 2 - 67, col. 10, lines 1 - 64, col. 11, lines 17 - 26, col. 12, lines 24 - 62, col. 14, lines 30 - 60, fig. 5, 8].

Applicant further argues, "the Examiner did not provide articulated reasoning to support such modification". The examiner disagrees as reasons to support is such modification is provided as, " Takizawa to include a transition to lower processing ability [lower performance state] in response to determination that low charge level instead of directly stop state which prevent system reset, and the signal VRPWRGD is maintained active during the performance state transition by control logic and system may trigger a performance state change including an over a temperature condition where a predefined temperature threshold in a thermal zone of computer system has been violated, and system usage is monitored, with events generated to trigger switching to a lower performance state if usage is low which obviously also lengthen the life of battery [col. 6, lines 15 - 38]. "

In summary the applicant requests that "a replacement, non-final Office Action be issued with support for a rejection of the same, and with the response date accordingly reset." The examiner respectfully rejects the request as the arguments are based on subject matter "**the switch for detecting the removal of a battery**" not in the claim language.

In response to applicant's arguments regarding, "unsupported Official Notice Taken by Examiner In item 20 of the current Office Action", the Examiner is disagrees and arguments are in moot, as examiner has never taken an office notice in the previous office action in rejection.

In response to traverse of rejection, applicant argues, "Takizawa, alone or in combination, does not teach a processing section," as recited in claims 1 and 25, that is

responsive to the **removal requirement** for the part of the batteries from said **removal requirement receipt section to determine**, whether supplying removal requirement for the part of the batteries from said removal requirement receipt section to determine "whether a supplying possible electric power from the remaining batteries is an electric power capable of maintaining a processing ability or an electric power only capable of maintaining a lowered processing ability (emphasis added)." Claim 25 has a similar recitation. The examiner agrees that Takizawa does not teach a lowered processing ability, let alone, determining whether the supplying possible power from the remaining batteries is an electric power is capable of maintaining such a lowered processing ability, and therefore the examiner has used Pole, a secondary reference.

Applicant further argues, "Pole does not teach a processing ability determination section as recited by claims 1, and 25". The examiner agrees as Pole alone does not teach a processing ability determination section, instead Takizawa teaches a processing ability and determination section as mapped in rejection. Takizawa in view of Pole teaches a processing determination section of claim 1, and 25 as explained in rejection.

In reference to arguments for claim 3, applicant arguing for unclaimed limitation, "**a switch for detecting the removal of a battery**" as to claims 1, and 25.

7. Rejection of claims 1, 3-4, 6-7, 11,13, 15-16, 20, 22-23, 25, and 27-42 is maintained as follows:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1, 3, 25, and 27 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. [hereinafter as Takizawa], Us Patent 5,739,596, and further in view of Pole, II et al. [hereinafter as Pole], US Patent 6,272,642 B2.

2. As to claims 1, 3, 25, and 27, Takizawa discloses an electronic apparatus [handheld or laptop fig. 1] to which pluralities of batteries detachably mounted [101 102, main batteries are inserted and removed] comprising: a removal requirement receipt section [14, and 15 detector switch operates and generates an interrupt signal within battery controller when one of battery cover (45, 46) is opened] for receiving a removal requirement for a part of [101, 102 main battery packs] the mounted batteries [ 101, 102 main battery packs] [col. 5, lines 40 - 59, col. 8, lines 12 – 21, col. 11, lines 17 - 26, fig.

1, 3A, 3C]; a processing ability determination section [battery controller] responsive to the removal requirement for the part of the batteries from which said removal requirement receipt section to determine whether a supplying possible electric power from the remaining batteries is capable [non-selected battery's charge level is determined that is sufficient] of maintaining a processing ability [col. 9, lines 2 – 5, col. 14, lines 45 – 47] or an electric power capable of maintaining a lowered processing ability [col. 9, lines 1 – 5, col. 10, lines 33 – 43]; and a processing ability control section for controlling the operation of an apparatus operative or stop depending upon the charge level is sufficient or not when the part of the mounted batteries is removed [disconnected][col. 2, lines 15 – 22, col. 9, lines 2 – 67, col. 10, lines 1 – 64, col. 11, lines 17 - 26, col. 12, lines 24 - 62, col. 14, lines 30 - 60, fig. 5, 8].

However, Takizawa's does not teach about lower the processing ability while keeping the electronic apparatus operative in accordance with a decision from determination section that the electric power needs to lower the processing ability. In summary, Takizawa does not teach different modes of operation with different processing ability depending upon the available charge level determination of unselected battery.

Pole teaches a system and method for managing system's different performance state, which is adapted to transition from a first performance to a lower activity states [C1, C2, C3] in response to the power management event while keeping the electronic apparatus operative and the power management event is generated in response to a

change in system's power source [abstract, col. 1, lines 36 - 45, col. 2, lines 1 - 36, col. 4, lines 24 - 41, col. 6, lines 15 - 60, col. 7, lines 1 - 63].

It would have been an obvious to one of an ordinary skill in art, having the teachings of Takizawa and Pole in front of him at the time of invention was made, to modify the processing ability control section for controlling the operation of an apparatus operative or stop depending upon the charge level is sufficient or not disclosed by Takizawa to include a transition to lower processing ability [lower performance state] in response to determination that low charge level instead of directly stop state which prevent system reset, and the signal VRPWRGD is maintained active during the performance state transition by control logic and system may trigger a performance state change including an over a temperature condition where a predefined temperature threshold in a thermal zone of computer system has been violated, and system usage is monitored, with events generated to trigger switching to a lower performance state if usage is low which obviously also lengthen the life of battery [col. 6, lines 15 - 38].

3. As to claims 4, and 6, Takizawa teaches a portion [processor] receiving a clock [internal clock] and operative in synchronism with clock [external clock] while consuming an electronic power according to a repetitive frequency of clock [internal clock frequency settings], wherein processing ability control section changes [changing] over the frequency [frequency settings] of the clock [internal clock] to control the processing ability [col. 4 lines 1 - 61, col. 5, lines 15 -39, col. 6, lines 1 - 4].

4. As to claims 7, Takizawa teaches display section for displaying inhibits or acceptance of the removal of battery on LCD displays [col. 5, lines 4 - 36, fig. 8].

5. As to claim 9, 12, and 30 – 33, Takizawa teaches monitoring section for monitoring residual electric power by measuring voltage and current of mounted batteries and determines residual electric power [battery controller monitors by measuring voltage level and current of battery pack][col.7, 37 - 48, col. 13, lines 52 - 67, col. 14, lines 1 - 10].

6. As to claims 13, and 15, Takizawa teaches plurality of main batteries, which are chargeable [rechargeable] batteries and capable of being mounted on an electronic apparatus [col. 5, lines 40 - 45, col. 3, lines 5 - 21, fig. 2, 3A-3C, 4].

7. As to claim 28, Takizawa teaches a processing ability determination section receives the removal requirement for a battery from said removal requirement receipt section [col. 5, lines 40 – 60, col. 6, lines 34 – 44] and determines whether an electric power supplying ability is insufficient with only the remaining batteries [col. 10, lines 54 – 57], even if the processing ability of said electronic apparatus is lowered [col. 7, lines 45 – 55, col. 8, lines 12 – 21, col. 9, lines 1 – 5, col. 10, lines 9 – 64], and said processing ability alteration instruction apparatus further comprises a removal acceptance display section displaying inhibit or acceptance of the removal of a battery according as said processing ability determination section determines whether an electric power supplying ability is insufficient with only the remaining batteries, even if the processing ability is lowered [col. 5, lines 4 – 14, col. 12, lines 7 – 63, fig. 2].

8. As to claim 29, Takizawa teaches display section for displaying inhibit of acceptance of the removal of battery on LCD display [10] [col. 5, lines 4 – 36, fig. 2].

9. Claims 16 - 23, and 34 - 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. [hereinafter as Takizawa], Us Patent 5,739,596, and further in view of Pole, II et al. [hereinafter as Pole], US Patent 6,272,642 B2 as applied to claims 1 - 15, and 25 - 33 above, and further in view of Dunstan, US Patent 5,600,230.

10. As to claims 16 - 23, and 34 - 42, Takizawa discloses an electronic apparatus and method for power delivery with power supply system which includes pluralities of main batteries detachably mounted [main batteries are inserted and removed] comprising: a removal requirement receipt section [ 14, and 15 detector switch operates and generates an interrupt signal within battery controller when one of battery cover (45, 46) is opened] for receiving a removal requirement for a part of [101,102 main battery packs] the mounted batteries [101,102 main battery packs] [col. 5, lines 40 - 59, col. 11, lines 17 - 26, fig. I, 3A, 3C]; a processing ability determination section responsive to the removal requirement for determining whether a supplying possible electric power from the remaining batteries is capable [non-selected battery's charge level is determined that is sufficient] of maintaining a processing ability [col. 14, lines 45 - 47]; and a processing ability control section for controlling the operation of an apparatus operative or stop depending upon the charge level is sufficient or not [col. 11, lines 17 - 26, col. 12, lines 24 - 62, col. 14, lines 30 - 60, fig. 5, 8].

However, Takizawa's does not teach about lower the processing ability while keeping the electronic apparatus operative in accordance with a decision from determination section that the electric power needs to lower the processing ability. In

summary, Takizawa does not teach different modes of operation with different processing ability depending upon the available charge level determination of un-selected battery. Pole teaches a system and method for managing system's different performance state, which is adapted to transition from a first performance to a lower activity states [C1, C2, C3] in response to the power management event while keeping the electronic apparatus operative and the power management event is generated in response to a change in system's power source [abstract, col. 1, lines 36 - 45, col. 2, lines 1 - 36, col. 4, lines 24 - 41, col. 6, lines 15 - 60, col. 7, lines 1 - 63].

However, Takizawa and Pole teaches that the battery packs are capable of being mounted on electronic apparatus but non of them discloses that each of battery packs have a memory for storing a residual electric power of a battery of an associated battery pack. Dunstan teaches a smart battery [82, fig. 4] includes a rechargeable battery [80], micro-controller [56], and memory [60] for storing different charge values [61 - 71 in fig. 4] including monitoring and calculating remaining capacity value by measuring battery's con [col. 8, lines 44 - 67, col. 9, lines 1 - 64, col. 10, lines 38 - 63].

It would have been an obvious to one of an ordinary skill in art, having the teachings of Takizawa, Pole and Dunstan in front of him at the time of invention was made, to modify the processing ability control section for controlling the operation of an apparatus operative or stop depending upon the charge level is sufficient or not and replacing power source not limited to rechargeable alkaline, nickel-cadmium and nickel metal hydride batteries [col. 3, lines 12 - 15] disclosed by Takizawa to include a transition to lower processing ability [lower performance state] in response to

determination that low charge level instead of directly stop state which prevent system reset, and the signal VRPWRGD is maintained active during the performance state transition by control logic and system may trigger a performance state change including an over a temperature condition where a predefined temperature threshold in a thermal zone of computer system has been violated, and system usage is monitored, with events generated to trigger switching to a lower performance state if usage is low which obviously also lengthen the life of battery [col. 6, lines 15 - 38]; and to include Dunstan's smart battery with rechargeable battery, memory, and controller which calculates and updates remaining capacity value based on battery current, and battery's characteristics and periodically compares capacity alarm value and sends capacity alarm signal when remaining capacity value is less than the alarm value which controls its own charge cycle to optimize charge time, prolong battery life, and prevent destructive charging conditions too [col. 3, lines 58 - 67, col. 4, lines 1 - 17, col. 7, lines 18 -33].

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NITIN C. PATEL whose telephone number is (571)272-3675. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nitin C. Patel/  
Primary Examiner, Art Unit 2116